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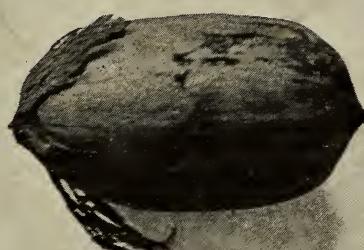
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U.S. DEPARTMENT OF AGRICULTURE



West Texas

Pecan Nursery



Located in the Very Heart of the
Pecan Growing Region



E. E. RISIEN & SON, Props.

SAN SABA COUNTY, TEXAS.



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Colorado River at junction with San Saba River

Our Location

On almost any map of Texas can be seen the exact spot of our Nurseries, located at the immediate confluence of the Colorado and the San Saba rivers. Here the soil and climate are so very favorable for developing this industry that we have no need for artificial fertilizers of any kind, as can be seen by the health and vigor of our trees. Trees stimulated by the use of artificial fertilizers are generally **dear at any price**, and those unfamiliar with this business should go slow about planting inland the coast-raised varieties; most of them are too tender to stand this climate. In this windy climate tougher wood is also needed.

The hardiness of our western trees is a very important factor; the keeping qualities of our western nuts with plump, full kernels, is proverbial, and we know nothing about an "earthy" or bitter taste.

The root-system of the Pecan being so unlike that of other nursery stock, we have practised an entirely different method of growing them. We like them to come into competition with trees bought from elsewhere and, if our prices seem not quite so low, time soon proves which is the cheaper. Our attention has been called to trees **sold as good stock**, budded 2 and 3 feet above the ground, with only a few inches of shoot from the inserted bud. We would like to assure prospective buyers that no such work as this is sent out from our Nurseries. Life is too short to squander in nursing sickly trees, or planting worthless varieties.

When Prof. William A. Taylor, of the United States Pomological Department at Washington, visited our Nurseries, about the first thing he commented on was the sturdy growth of our trees. Really our grounds are an experiment station from which the purchaser gets the full benefit. Little satisfaction **or profit** is found in growing nuts on trees that set their fruit sparingly and only on the ends of long bare limbs, clinching the fruit so tightly that the nut itself has to be pulled off by hand or hit, falling with the hulls still intact. Then again we too often see strong, vigorous trees with nuts utterly worthless, or fruiting but once in five to ten years; in fact our experience with defective trees is enough to fill volumes of description.

The contrast of this is found in the varieties we offer setting their fruit more in the body of the tree. If our trees are not too large, we go up into them, using only an old broom-handle to jar the limbs, which results in a perfect rain of nuts. Those intending to buy trees should first make us a visit to see whether or not our trees have the **intrinsic value claimed**.

Sending money out of Texas for Pecan trees is in keeping with sending it out for cotton, corn, peaches, melons, or anything else already growing here to perfection. Bear also in mind the express charges before the trees reach Texas soil.

WEST TEXAS PECAN NURSERY

E. E. RISIEN & SON, *Proprietors*

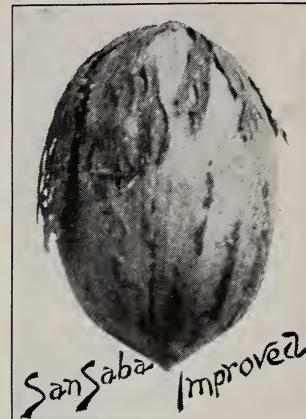
Established 1888
POST OFFICE, SAN SABA

San Saba County, Texas

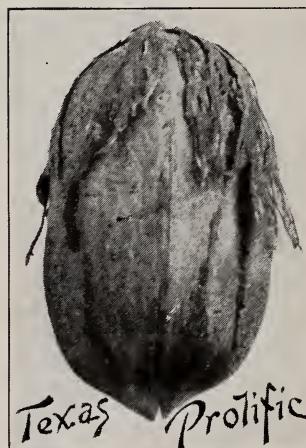
Varieties and Prices of Our Hardy Western Trees

We have growing and fruiting all the leading varieties advertised, but we have also had some costly experience. None of the eastern trees can show the symmetrical growth, elegance of foliage, brightness of color, nor quality in the nuts which our trees produce.

SAN SABA IMPROVED. A seedling of San Saba. This tree came in as a surprise, for we had about given up all hope of getting a better nut than the original; but, after discarding thousands, our patience has been rewarded. The tree bears two weeks earlier, commencing the middle of September. The nuts are a third larger, much brighter in color, and the tree is a stronger grower. The nuts weigh 60 to the pound. 2- and 3-year-old trees, \$1.25 each.



TEXAS PROLIFIC. A seedling of San Saba; season of ripening medium. Trees of this variety are so precocious as to begin bearing the second year from the bud. In this we have gained a third on every point, except reducing the thickness of shell, a feature that could hardly be possible. The nuts are large, shapely, of a beautiful color, and very attractive. They fill up the barrel fast, and stand on their own merits. Texas Prolific is the most difficult of all varieties to propagate, and this is why we doubt the ability of other nurseries to cut the price of the genuine stock. When we first introduced this variety, we failed to supply the demand at \$2.50 each. Now we offer it in 2- and 3-year-old trees at \$1.50 each.



COLORADO. A seedling of San Saba; season of ripening late and, being the latest of all to bloom in the spring, the late frosts never catch it. The tree is a remarkably healthy grower and the last to drop its foliage in the fall. It is well suited for avenue planting, but is not so prolific as the former kinds, although the nuts are somewhat larger. Selected nuts weigh 40 to the pound. 2- and 3-year-old trees, \$1.25 each.

These three splendid annual bearers make a collection that blends, and should not be broken by planting less than six trees, two of each kind, commencing with Colorado on the south, then alternately.

BANQUET. A seedling of Texas Prolific x Atwater. Although the best of everything is provided for in the Banquet, it costs more to please the eye than the stomach; hence we named our largest and showiest nut "Banquet." For a more detailed description, see under the headline, "Tree-breeding." This variety is yet scarce. 2- and 3-year-old trees, \$1.50 each.



VENUS. A seedling of San Saba x Atwater. This, like the Banquet, is the outcome of a lot of patience both in labor and money. See description under the headline, "Tree-breeding." The time of ripening, however, is so late that we can recommend it for planting only where the seasons are long, hot, and dry. We are expecting to hear good reports from southwest Texas and Arizona. 2- and 3-year-old trees, \$1.50 each.

WEST TEXAS PECAN NURSERY, SAN SABA CO., TEXAS



Texas Prolific growing on the grounds of the Agricultural and Mechanical College, Texas, fruiting 14 nuts in less than 3 feet from the ground

ONLIWON. A seedling of San Saba. By selecting this name we do not mean to imply that this is the only one good Pecan; but from the knowledge we have gained, when all points are considered, we place this at about the top round of the ladder, and we keep pretty well posted on all the trees, both old and new, that are put on the market. Competition is now so sharp that few if any get overlooked that are considered worthy of propagation; in fact, we are surprised at some offered for sale at all. Large genuine paper-shell Pecans, containing plump, full kernels, rich in oil, with meats that crack out whole from the shell, are very scarce, and these features, combined with health and vigor in the tree, are scarcer still. Hence this annual fruiter, containing all these good, desirable qualities, may justly be called the "only one"—Onliwon. 2- and 3-year-old trees, \$1.50 each.

SQUIRREL'S DELIGHT. The squirrels are by nature judges of good nuts for, when they find these, they show special delight. Noticing this same trait in children, we considered naming this nut "Children's Delight," or even "People's Delight;" for it pleases all alike. 2- and 3-year-old trees, \$1.25 each.

WESTERN SCHLEY. As we have said before, there are two families of Pecans—the eastern and western varieties. In this Pecan we have a facsimile of the Eastern Schley, described in all nursery catalogues, and which we regard as the best of their collection. Our Western Schley, however, is larger but **not so variable**. A stronger grower, and of a better constitution; hence not so exacting about where it grows. 2- and 3-year-old trees, \$1.25 each.

NOTE.—We are the originators of all the trees here offered, and this is why we are able to grow trees from fruit-bearing cions taken from the mother trees.



"Permanent Success Comes When Goods and Advertising Correspond"



This shows the grade of trees we send out. Every one is a tree. The tops are hanging down that the roots may be more plainly seen. Two- and three-year-old grafted and budded trees, grown under our new patented process and without the aid of any fertilizers, these are model trees for transplanting, and we will venture the assertion that they are not improved upon anywhere.



1. By the old way the work of the tree-digger leaves more roots in the ground than are taken out. With the Pecan, wounded or injured roots heal slowly—so slowly that too often they dwindle and die. This defect we have entirely eliminated.

2. As grown in the nursery before they are pulled up off the wire cloth. Every indentation made by the wire meshes produces embryo roots, the value of which cannot well be explained on paper.

3. Formation of tap-roots that at once push out from the *embryo roots* when removed from the wire. The Pecan may rightly be called the one-root tree, hence the value of our invention. All rights reserved. Process patented October 20, 1903.

WEST TEXAS PECAN NURSERY, SAN SABA CO., TEXAS

Season for Planting

We like to wait until the turn of the year, but not later than March 20, before transplanting. The hard freezing we usually get about that time is apt to prove damaging to newly planted trees.

Care of Trees on Arrival

Should it happen that conditions are not favorable to planting out as soon as your trees arrive, don't get alarmed, as they will be well packed. Examine them, and if they are not thoroughly damp, give them a good sprinkling before unpacking; or, what is better, bury the package at once in the ground in a shady place. Another good plan is to put them in the cellar just as received, covering with additional wrapping. Cloudy, damp days are much to be preferred for planting out.

Planting the Trees

Because of our improved method of growing the young trees, no root-pruning of any kind is needed, nor has it been needed, and only the tops of some may be cut back to advantage. Most failures in tree-growing are directly traceable to mistakes made when they are planted. Never expose the roots to air or sun an instant longer than is necessary, and, if possible, plant when the soil is moist and will work up fine. Never plant when the ground is soggy, as the soil will bake and retard the growth of the tree.

In digging, place the top soil on one side and the subsoil on the other. The holes should be somewhat broader than the roots, but not much deeper than their length. Fill the hole with water and, after it has soaked away, place the tree so that it will be at about the same depth or a little deeper than when growing in the nursery before it was moved; then rake in the top soil, but not rapidly enough for the roots to become tangled, at the same time trampling firmly with the feet till finished. Only the finest and best earth should be used first.

If irrigation is used, give a good soaking about ten days later, and special attention should be given to irrigation the first year. Not much growth, however, must be expected until the roots are established in the hard ground as they were before they were moved. No vegetation of any kind should be allowed to grow within 3 or 4 feet or more of the tree. The value of a good thick mulch of hay or straw through our long, hot, dry summers will prove a wonderful help till the trees are grown large enough to shade the ground for themselves.

In western Texas we know but little about fertilizers. It is more a question of water and plenty of it, providing, of course, it is not stagnant water; hence irrigation, sub-irrigation, or land subject to overflows, produces ideal locations. In fact, if the trees are annually submerged (Baptist, not Methodist) for a few days, so much the better. To prove this statement, we have but to notice the healthy growth of trees so located. Hot heads and wet feet is the principal secret to success.

For planting distance no absolute figures can be given. The varieties vary with the kind and fertility of the soil; but it is always safe to give plenty of room, from the fact that our western trees turn their efforts more to growing fruit than wood. They can be planted as close as 35 feet apart.

Cultivation

The only tool we use about our trees is a good sharp hoe to shave the ground. Hoe lightly and when the ground is dry because of leaving a mulch of fine earth and weeds.

The roots of the Pecan are peculiarly susceptible to damage from the air and this is why we do not advocate deep cultivation; in fact, we believe dead wood is caused principally by the roots getting too much air.

Pruning

When the trees you get from us commence starting to grow, preserve every leaf, it matters not where it is. To destroy one or more is to retard the flow of sap. If you want plenty of nuts, the tree must have plenty of leaves. All the pruning we do is done with the thumb-nail and finger in the summer months, and this is only to check the strong shoots outgrowing the smaller ones. By managing in this way you should see fruit from the ground up.

Cions and Buds

Experience has proved that it does not pay to stop work in the short seasons we have here to hunt for suitable buds or cions, which means also a considerable waste of wood and sacrifice of the best nuts.

WEST TEXAS PECAN NURSERY, SAN SABA CO., TEXAS

Seed Pecans

Seed Pecans, such as we ourselves plant, are not for sale at any price. It would be impossible to build up our industry and sell them.

Samples and Mail Orders

Until we are better able to solve the labor problem we are compelled to drop out this part of the work.

Answering Questions

Those unfamiliar with this business can form no idea of our mail matter, which is becoming overwhelmingly burdensome with questions that our Experimental Stations are paid to answer. Write to them; ask for their Bulletins—that is what you are paying taxes for. We also have many letters from parties who contemplate speculating in Pecan lands. We are not in any way interested in this line, neither is our own property for sale.

Terms and Prices

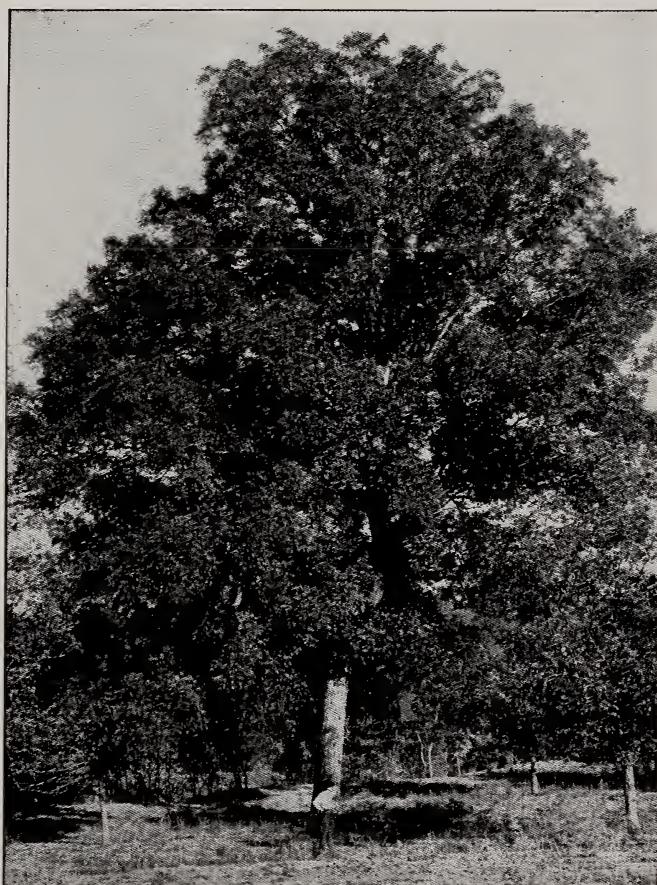
We are not in the wholesale business and are not growing trees for trade—~~and my letter~~; but to save time and labor we will make a discount of 20 per cent on bundles of 50 each to one address. No extra charge is made for packing and delivering f.o.b. San Saba. There our responsibility ceases. To unknown parties, our terms are cash with the order; to reliable persons, one-half of the total amount of invoice, unless by special agreement.

Tree-Breeding (By E. E. RISIEN)

Read before the 28th Annual Meeting of the Texas State Horticultural Society

Tree-breeding, we presume, began with the dawn of creation. The wind and insects must also have been active, carrying the pollen from tree to tree for the purpose of cross-breeding, this being so very essential to retain vigor from generation to generation, for in all breeding do we see this exemplified.

My seedling Pecan orchard of 1,000 trees, and all from the one mother tree, San Saba, furnishes a splendid illustration of tree-breeding done by the wind and insects, using pollen from the nearby inferior trees, just anything and everything. These nuts are all good enough for the squirrels and other rodents and, to some extent, they supply the common market. The wild and crude is fast passing away. The cultured mind and cultivated taste of man will not have them when it is possible to do better. And this is why the



The mother tree San Saba. The smaller ones are her children

WEST TEXAS PECAN NURSERY, SAN SABA CO., TEXAS

Pecan tree is now getting so much attention, and will soon be bred up to that degree of perfection as to make it a joy forever.

My first successful work at tree-breeding was in the union of the two best Paper-shell Pecan trees growing in San Saba County. The nuts of these trees were not large, but had qualities in them I wanted to see blended. This work was done in the early part of May, 1904, and followed by a rain and windstorm that destroyed about two-thirds of the paper bags. However, in the fall I was able to count fifteen nuts for planting. The best nuts are not found near the body of the tree in the protected parts, so I didn't consider these fair samples. These fifteen nuts all germinated and grew. The mother tree of these was San Saba; the father tree, Sloan, growing on Mr. Sloan's land. These fifteen little trees were not long in showing great variations both in growth and in the leaves. Now, to wait for these little baby trees to grow up and fruit naturally, life I consider too short for that; so the next year they were all cut to the ground to get suitable buds for top-working; each one was budded on an old tree. By managing them this way possibly eight or ten years was saved in the time of fruiting. Anyway, I got to see samples of nuts from the union of these two old trees that were growing twenty-seven miles apart, in five years from planting the seed.

This little crop of nuts was an eye-opener, for they revealed to what extent those two trees bred back to the common wild types, which were mostly in evidence; and that the pollen proved to be the prepotent factor was also plainly shown, both in the character of the trees and nuts. There were several that, for want of a better name, I call false hybrids. These are nuts that never fill, caused presumably from faulty or immature pollen. In fact, I secured only one well-defined cross. This nut is considerably larger and retains all the good qualities of both parents. I have not catalogued it for the simple reason that people are quite foolish about size, and the general market demands large nuts. However, with this partial success, acquiring the knowledge that the pollen is the prepotent factor, and that it doesn't take a whole lifetime to wait on the breeding of Pecan trees, my enthusiasm was renewed, and more of this work had to be done.

What I wanted to know most, and what I still want to know most, is the science and art of blending the different varieties to get the best effect and the most efficiency out of the trees. So, keeping these two features in view, my next selection was to again use San Saba for the mother tree and Atwater as the father tree. The Atwater nuts are a very uncommon type—the green husk that covers the nut is the thinnest I have ever seen. They are above medium in size, with soft, thin shell, and the bright coloring is not excelled by any; but they are not good keepers. In the San Saba nut we have the other extreme as regards keeping qualities. The union of these two trees resulted very much like my first experiment; they showed up their back ancestry, with some false hybrids, but with only one well-defined cross. In this I secured a prize, a decided improvement on the parentage of either side. The tree has more vigor, the nuts are much larger, and in the coloring they far excel anything in the Pecan line. It was by laying one of these nuts on a pile of common Pecans that the name Venus was suggested. But there is one feature that puzzles me—it is in the lateness of ripening, fully a month behind the parentage on either side.

My third experiment was to use Texas Prolific for the mother tree and Atwater for the father tree. I have fruited a great many seedlings of the Texas Prolific fertilized by the winds and insects, all of which have been disappointing, but in fruiting the offspring from the union of these two trees was to get some prizes and many surprises. The perfect blending, however, I found only in one. It is a beauty and I have named it Banquet. It is very large, immensely prolific, ripens a week earlier than either parent, and retains that bright coloring characteristic of both sides. This alone gives it a distinction from the common herd. In fact, the razor-backed stock may now be considered pretty well bred out, and from the nucleus I now have it will take but another generation or two of our well-bred western nuts to invite criticism from the most fastidious.

In these two new creations, Venus and Banquet, we have an unexplained mystery: Why is it that there is a difference of five weeks in the ripening of these nuts? The parentage on both sides ripens the same time, neither early nor late; so there is yet lots to learn.

My observation of the eastern and western Pecans convinces me that there are two families of them, and although I have quite a collection of the eastern varieties, so highly lauded, I have made no attempt at crossing them, for I have not yet been able to see how anything is to be gained by doing so.



This Pecan tree (*San Saba Improved*) has a spread of leaf surface large enough to keep the sun out from the whole body of the tree. Neither should the sun shine on the ground in the climate of Western Texas.

WEST TEXAS PECAN NURSERY, SAN SABA CO., TEXAS

Breeding the Trees

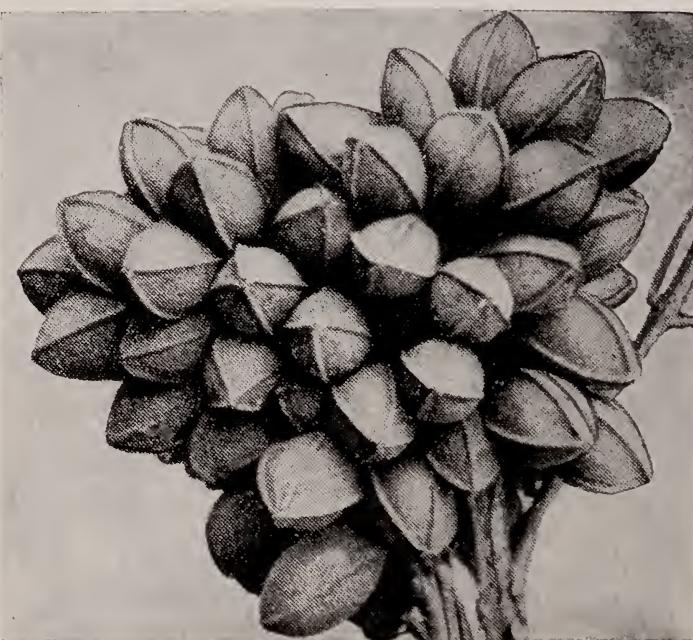
In doing this work artificially it is absolutely necessary to tie a paper bag securely over each cluster of nuts, just as soon as they can be discovered, because at this stage of growth the air is apt to be well impregnated with pollen from the surrounding trees, and in high winds it may visit the trees from miles away and effect its mission. To save the pollen for use artificially we have but to watch the ripening of the catkins or male blossoms; then just as soon as the pollen commences to waste it is ripe. Now strip off the catkins into a paper bag, take them to a warm, dry room, empty on a sheet of paper, spreading them out and in a few hours the paper will be covered with a yellow dust; this is the pollen. It is now an easy matter to separate this for use by running it through a fine sieve—a milk-strainer will do. This I put into a pill-bottle to use as needed. The vitality of it is good for about a month—maybe more.

The pistillate or female blossoms that receive this pollen are on the end of each nut. These are small, but plainly seen, and by watching them closely we can soon learn the receptive stage to receive the pollen. They open very much like any other flowers. The pollen may now be dusted on with almost anything. A small pepper-shaker works very well, though wasteful, or a camel's-hair brush, such as comes in a box of water-colors. I use a medicine-dropper, slightly pressing the bulb. This gives just about the right amount for each application. The paper bag should then be tied back and left on for about two days as a further precaution against foreign pollen. After this much time has elapsed, any pollen from another source would not be effective. Such has been my experience.

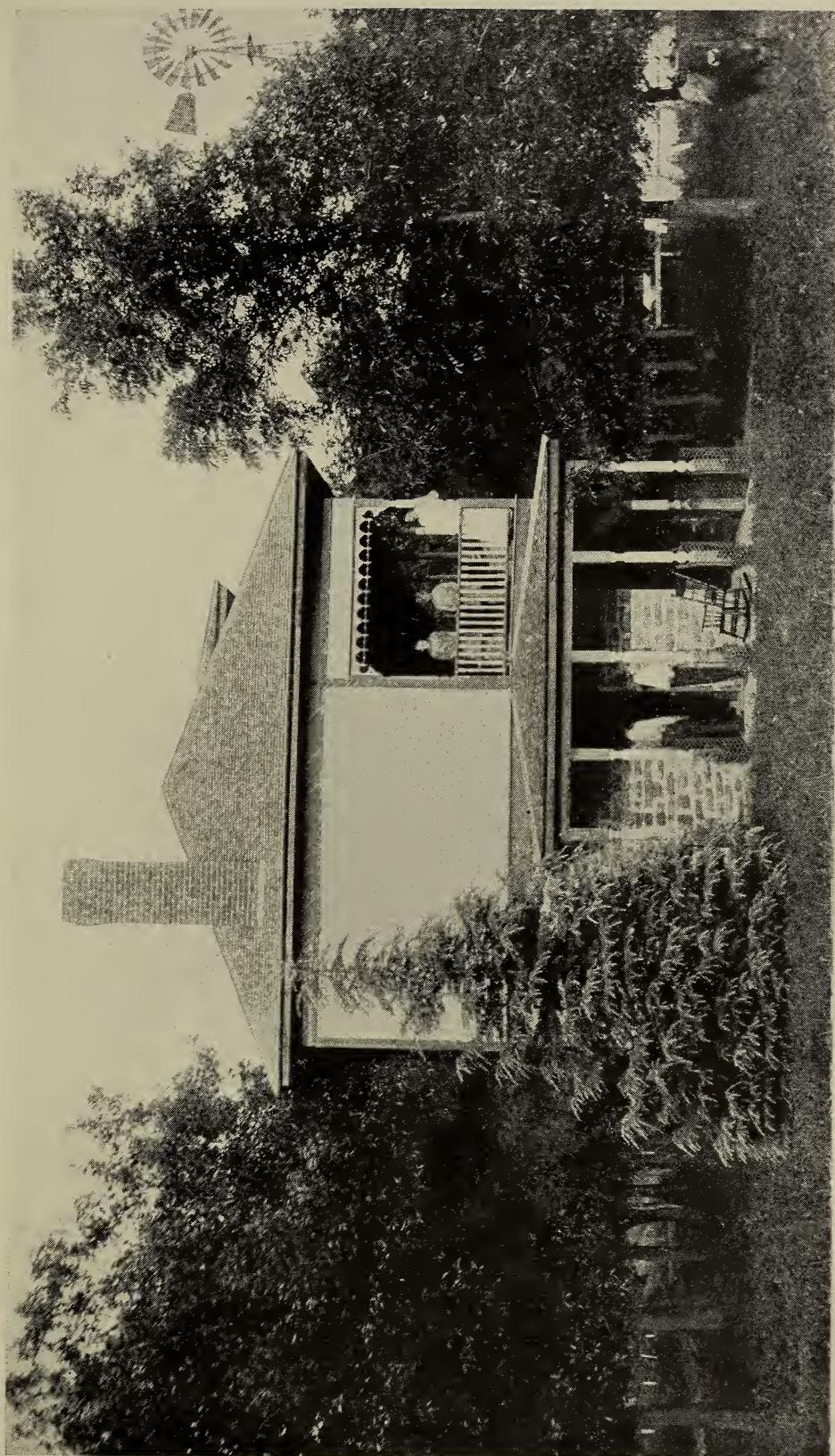
Seed-Nuts

Every year does not furnish them, although the general market may be well supplied with Pecans and to all practical purposes just as good as any. But seed-nuts for breeding—this is something very different, the importance of which I can better explain by saying that should my cross-breeding work be followed by an unfavorable season, all that time and work are lost. I never plant those nuts, because the climatic conditions are all registered in the seed. Now, it may not be necessary to be this particular with short-lived annual crops, such as cotton and corn, but with long-lived trees we think there is actually a saving of time in waiting, and planting only from good normal years. Seed from very old trees or very young trees should not be planted for breeding purposes, but rather in their prime. Neither will it do to plant from trees in which the heart-wood is decaying. Nature's laws are very exacting; so, see to it that all imperfections are eliminated, and do not forget that we must feed as well as breed.

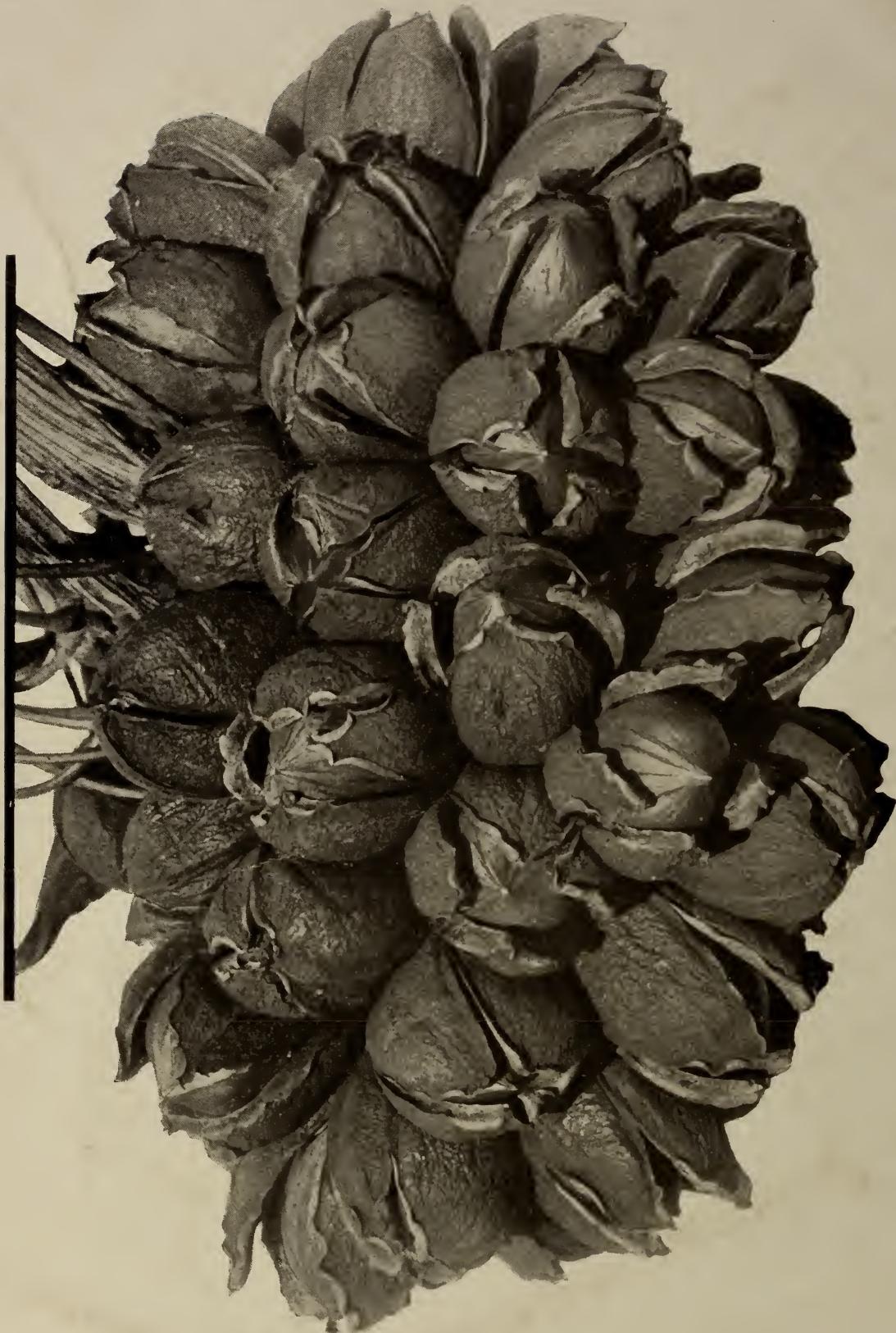
Continued on page 194 of the 1914 Proceedings of the Texas State Horticultural Society, Austin.



Seventy-five nuts in this cluster grown near San Antonio, Texas



Office and Pecan trees only two blocks north of the Court House Square, San Saba



57 matured Pecans on one stem grown in San Saba County